86-1195

No.

Supreme Court, U.S.
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SUPREME COURT OF THE UNITED STATES

October Term 1986

ARTHUR W. JOYCE,
PETITIONER
v.
COMMISSIONER OF PATENTS

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITION

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QUESTIONS PRESENTED

FOR REVIEW

This Petition presents the following questions:

1. Whether the Federal Circuit misconstrued both the decision that it reviewed and the references, by erroneously stating that Appellant's device has a characteristic which it does not have and by finding that it would be obvious to include in the principal reference a characteristic that the reference already possesses.

2. Whether the decision reviewed by the Federal Circuit failed to provide a proper factual basis for a determination of obviousness.

3. Whether the Federal Court erred in approving a combination of early references which failed to previously suggest Petitioner's superior product, despite the alleged obviousness of such a combination.

LIST OF PARTIES

1. Arthur W. Joyce, Petitioner.

2. Commissioner of Patents and Trademarks, Respondent.

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IN THE

SUPREME COURT OF THE UNITED STATES

ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

Petitioner respectfully prays that a writ of certiorari issue to review the judgement of the United States Court of Appeals for the Federal Circuit in its case No. 86-1149. The judgment was entered on October 22, 1986.

OPINIONS BELOW

The opinion of the Court of Appeals is unreported and is reprinted in the Appendix to this Petition commencing at page 1a.

JURISDICTION

This Court has jurisdiction over the judgment entered October 22, 1986. This Court has jurisdiction by virtue of 28 U.S.C., Section 1254(1).

THE CONSTITUTIONAL PROVISIONS AND STATUTES INVOLVED

U.S. Constitution, Amendment V

"No person shall ... be deprived of life, liberty or property, without due process of law..."

35 U.S.C., Section 101

Inventions Patentable

"Whoever invents or discovers any new and useful process...or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title."

35 U.S.C., Section 103

Conditions for patentability; non-obvious subject matter.

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

STATEMENT OF THE CASE

This case originated as an application for patent in the United States Patent and Trademark Office under 35 U.S.C., Section 101. The application is directed to a harnessing device formed by a locking head and an attached webbed strap. The head contains a locking tang in a guide channel that receives the strap after encirclement of items to be harnessed. The tang engages abutments of the webbed strap for adjustable retention of the harnessed items. The strap is molded from stretch reorientable material, which after stretching, produces a strengthened web highly resistant to failure.

(a) Procedural History

An ex parte Appeal under 35 USC 145 was made to the Court of Appeals for the Federal Circuit from an adverse decision by the Patent and Trademark Office Board of Appeals. This was after an earlier remand by the Court of Appeals of an earlier adverse decision of the Board.

(b) The Prosecution Before the Patent Office

In the final Office action the Examiner rejected claims 9 through 15 under 35 USC 103 as being unpatentable over Schuplin in view of Fay and Wyckoff et al.

Schuplin was cited as teaching a harnessing device molded from a stretch reorientable material. The device in Schuplin was noted as having a head 14, an elongated guide channel 30, a locking tang 34, locking teeth 16 and flats 20.

The Examiner then stated: "It would be obvious that the stretch reorientable material of Schuplin could be reoriented as taught by Fay. It would be further obvious to modify Schuplin to include webbed portions (see thin portions 35) between rungs (see thick portions 34) with a permanent molecular reorientation caused by stretching as shown and suggested by Wyckoff."

The Examiner continued: "It is held that Schuplin, Fay and Wyckoff are all directed to closely related inventions, that Fay properly and obviously teaches that bundling ties can be made from stretch-reorientable material, that in view of the close nature of the shown inventions, one of ordinary skill in the art would find it obvious to make the bundling tie of Schuplin from stretch-reorientable material as shown

in Fay, and that one of ordinary skill in the art would also find it obvious that web portions can also be stretched as suggested by the binding strap of Wyckoff." (emphasis added)

(c) The Examiner's Answer Before the Board

In the Examiner's Answer before the Board, the device of the invention was acknowledged as being molded from a stretch-reorientable material with a head 11 containing a locking tang 11-t and having rungs separated by webbing 12-w with a permanent molecular reorientation caused by stretching.

In describing the references, the Examiner repeated his prior characterization of Schuplin.

With respect to reference Fay, the Examiner stated that it "teaches reorienting a harnessing device made of reorientable material."

Finally, with respect to reference Wyckoff, the Examiner commented that it "shows webbed portions having a permanent molecular reorientation caused by stretching."

Petitioner's argument that one of ordinary skill in the art would not have considered the stretching of a thin web in the cable tie strap was dismissed "because the applied prior art is deemed suggestive of the combination by the close relationship of the shown harnessing devices" (emphasis added).

(d) The Decision of the Board on Remand

On remand, the Board sustained the decision by the Examiner rejecting Claims 9-15 under 35 USC 103.

The Board stated: "Clearly, in light of the disclosures of the secondary references, it would have been obvious at the time of the invention, to one of ordinary skill in the art, to provide the device of Schuplin with stretch reorientable material that is stretch reoriented in the strap area for the purpose of providing a low weight to strength ratio... and a high tensile strength...," citing references Wyckoff and Fay.

The Board stated that the factual basis for its conclusion of obviousness under 35 USC 103 is the disclosures of U.S. patents to Schuplin, Fay and Wyckoff.

Schuplin was cited as disclosing a harnessing device of stretch reorientable material with a ladder strap having rungs and structure corresponding to webbed portions.

Fay was cited as disclosing a harnessing device with a strap that is stretched over the major portion of its length.

Wyckoff was cited as teaching a strap with thick members 34 stretched longitudinally and biaxially oriented thin portions (webs) 35 between the longitudinally extending thick members 34.

The Board acknowledged that the invention relates to a harnessing device of stretch reorientable material with a head and ladder strap with rungs 12c separated by web portions 12w with a permanent molecular reorientation caused by stretching.

The Board stated: "The difference between the claimed subject matter and that which is disclosed in Schuplin is that the Schuplin strap is not provided with 'a permanent molecular reorientation caused by stretching'" (emphasis added).

The Board then said: "This difference does not establish the non-obviousness of the claimed subject matter as a whole" and then quoted the Examiner who said: "It would be obvious that the stretch reorientable material of Schuplin could be reoriented as taught by Fay. It would be further obvious to modify Schuplin to include webbed portions... with permanent molecular reorientation caused by stretching as shown and suggested by Wyckoff".

(e) The Decision of the Federal Circuit After Remand

The Court of Appeals attempted to adopt the conclusions of the Patent and Trademark Office Board of Appeals finding there to be sufficient factual evidence in the record to support the Board's conclusion that petitioner's strap harnessing device would have been obvious to one of ordinary skill in the art in light of the Wyckoff, Fay and Schuplin patents.

ARGUMENT

I. THE FEDERAL CIRCUIT HAS MISCONSTRUED BOTH THE DECISION THAT IT REVIEWED AND THE REFERENCES, BY ERRONEOUSLY STATING THAT APPELLANT'S DEVICE HAS A CHARACTERISTIC WHICH IT DOES NOT HAVE AND BY FINDING THAT IT WOULD BE OBVIOUS TO INCLUDE IN THE PRINCIPAL REFERENCE A CHARACTERISTIC THAT THE REFERENCE ALREADY POSSESSES.

The Federal Circuit has misconstrued Petitioner's strap harnessing device. It found "sufficient factual evidence in the record now before us to support the Board's conclusion that appellant's strap harnessing device, molded from a stretch reoriented material, would have been obvious in light of the prior art" (emphasis added). The

petitioner's device is not "molded from a stretch reoriented material," rather it is *first molded and then reoriented by* stretching.

The Court further misconstrued the principal reference Schuplin by asserting that the Board of Appeals concluded "that one of ordinary skill in the art would have provided the Schuplin strap device with a permanent stretch reorientable material" (emphasis added). Schuplin employs materials that are stretch reorientable ab initio. It was the failure of Schuplin to actually stretch this material that makes the petitioner's device non-obvious.

II. THE DECISION APPROVED BY THE FEDERAL CIRCUIT FAILED TO PROVIDE A PROPER FACTUAL BASIS FOR A DETERMINATION OF OBVIOUSNESS.

The Federal Circuit has attempted to adopt the Board's factual findings as to references Schuplin, Fay and Wyckoff. However the Board misstated the references and failed to consider them as a whole.

The Board cited Schuplin as disclosing a harnessing device molded from a stretch reorientable material with teeth corresponding to rungs and flats corresponding to webbed portions. **WHAT THE BOARD FAILED TO STATE IS THAT NOWHERE IN SCHUPLIN IS THERE ANY MENTION OF STRETCH REORIENTABLE MATERIAL. NOR IS THERE ANY MENTION IN SCHUPLIN OF WEBBED PORTIONS.** The

notion that Schuplin has structure corresponding to webbed portions is made strictly in light of the invention.

Reference Fay is cited as disclosing a harnessing device with a strap that is stretched over the major portion of its length. **WHAT THE BOARD FAILED TO NOTE IS THAT THE STRAP IN FAY IS ENTIRELY DIFFERENT THAN THE STRAP IN SCHUPLIN. THE STRAP IN FAY IS FORMED BY A LADDER WHERE THERE IS <u>NO WEBBING</u> BETWEEN ADJOINING RUNGS.**

Morecver, the only stretching in Fay is of longitudinally extending side rails.

Reference Wyckoff is cited as teaching a strap with thick members 34 stretched <u>longitudinally</u> and biaxially oriented thin portions (webs) 35 between the longitudinally extending thick members. **WHAT THE BOARD HAS FAILED TO NOTE IS THAT**

WYCKOFF HAS NO DISCLOSURE OF A HEAD ATTACHED TO THE STRAP, NOR ANY STRUCTURE CORRESPONDING TO RUNGS OF A LADDER. INSTEAD, WYCKOFF HAD LONGITUDINALLY EXTENDING THICK PORTIONS AND LONGITUDINALLY EXTENDING THIN PORTIONS BY CONTRAST WITH THE RUNGS OF A LADDER WHICH EXTEND LATERALLY.

Finally, the Board stated that the difference between the claimed subject matter and the disclosure in Schuplin is that the strap in Schuplin is not provided with a permanent molecular reorientation caused by stretching. **THIS IS INCORRECT BECAUSE THE INVENTION DOES NOT REQUIRE THE STRAP TO HAVE A PERMANENT MOLECULAR REORIENTATION CAUSED BY STRETCHING.** To the contrary, it is the webbing between rungs which is caused to have a permanent molecular reorientation caused by stretching. There is no molecular reorientation of the rungs of the strap.

It also is of crucial significance that there are no rungs in Wyckoff, so there is no stretching between rungs in Wyckoff, likewise, there is no webbing in Fay, so that there is no stretching of webbing.

The Examiner likewise failed to construe the references properly.

The Examiner stated that Schuplin teaches a harnessing device molded from stretch reorientable material. **SCHUPLIN NOWHERE SUGGESTS THAT HIS "BUNDLING TIE" IS MOLDED FROM STRETCH REORIENTABLE MATERIAL, NOT AT LINES 52-56 OF COLUMN 2 OR ANYWHERE ELSE.**

The Examiner continued that it would be obvious that the stretch reorientable material of Schuplin could be reoriented as taught by Fay. The Examiner has acknowledged that the invention "has webbed

portions" with "a permanent molecular reorientation caused by stretching." **THERE ARE NO SUCH WEBBED PORTIONS IN FAY, AND HENCE NO TEACHING OF THEIR REORIENTATION.**

The Examiner next suggests that it would be obvious to modify Schuplin to include webbed portions with a permanent molecular reorientation caused by stretching as allegedly shown and suggested by Wyckoff.

Schuplin discloses a "tie" which "may be molded of a plastic type material." (emphasis added). By contrast, Wyckoff has no mold; he discloses a strap formed by extrusion from a hopper 10. Moreover, the teeth 16 in Schuplin which the Examiner says correspond to Applicant's rungs are transverse, or at a right angle to the longitudinal axis of the strap. Wyckoff is the opposite, his "thick portions 34" must

be along the axis of the strap; i.e., longitudinal, in order to be extrudable.

IT WOULD NOT BE POSSIBLE TO PRODUCE THE DEVICE OF SCHUPLIN BY THE EXTRUSION METHOD TAUGHT BY WYCKOFF. FOR ONE THING, THE "RUNGS" OR "THICK PORTIONS" WOULD BE IN THE WRONG POSITION AND WOULD NOT ENGAGE THE TEETH OF THE LOCKING HEAD.

The Examiner then repeats that "one of ordinary skill in the art would find it obvious to make the bundling tie of Schuplin from stretch reorientable material as shown by Fay." **THE FAY TIE IS ENTIRELY DIFFERENT FROM THAT OF SCHUPLIN, AND FAY DOES NOT CONTAIN ONE WORD DESCRIBING STRETCH REORIENTABLE MATERIAL.**

The Examiner next stated that one of ordinary skill in the art would find it obvious that webbed portions can be

stretched as suggested. As noted above, Fay involves a molded tie and Wyckoff involves a band extruded without a mold.

MOREOVER, IF THE STRAP IN SCHUPLIN WERE TO BE STRETCHED, THE TEETH WOULD NOT ENGAGE IN THE HEAD AND THERE WOULD BE A MISMATCH BETWEEN THE STRAP AND THE HEAD PORTION SO THAT THE DEVICE WOULD BE UNUSABLE AND SERVE NO PURPOSE WHATSOEVER.

In addition, if the strap of Fay were substituted in Schuplin, the result again would be an inoperative device. Likewise, if the strap of Wyckoff were substituted in Schuplin, again the device would be inoperative because the longitudinal rungs would not be able to engage any locking mechanism in the head.

In his Answer Before the Board, the Examiner repeated his prior characterization

of Schuplin, which is discussed above. **AGAIN, IT IS NOTED THAT THERE IS NO RECOGNITION IN SCHUPLIN THAT HIS DEVICE IS OF STRETCH REORIENTABLE MATERIAL.**

With respect to reference Fay, the Examiner stated that it teaches reorienting a harnessing device made of reorientable material. **IT IS SIGNIFICANT THAT THERE IS NO MENTION OF REORIENTING WEBBING BECAUSE FAY HAS NO WEBBING.**

Finally, with respect to Wyckoff, the Examiner merely commented that it shows web portions having a permanent molecular reorientation caused by stretching. It does indeed have such web portions, but these web portions could not be incorporated into the Schuplin tie. <u>They are in the wrong direction</u>. <u>They extend the length of the strap</u>. <u>They do not exist between transverse rungs</u>.

III. THE FEDERAL CIRCUIT ERRED IN APPROVING A COMBINATION OF EARLY REFERENCES WHICH FAILED TO PREVIOUSLY SUGGEST PETITIONER'S SUPERIOR PRODUCT, DESPITE THE ALLEGED OBVIOUSNESS OF SUCH A COMBINATION.

The invention is a harnessing device (cable tie) in which a locking head with a pivotal pawl is used to engage the teeth separated by permanently stretched webbing. The stretching of the strap increases the tensile strength and flexibility of the device and simultaneously reduces weight.

A cable tie in accordance with the Joyce invention is illustrated (IIIa) in the Appendix at page 16a.

By contrast, a cable tie in accordance with reference Schuplin is of the kind illustrated (IIIb) in the Appendix.

It is immediately apparent that the two ties of Joyce and Schuplin are quite different.

By further contrast, a cable tie in accordance with reference Fay is of the kind illustrated (IIIc) in the Appendix.

It is readily apparent that the ties of III (a), III (b), and III (c) are widely different. In particular, the Fay tie of III (c) has neither a solid strap nor webbing.

Finally, a strap of the kind shown in Wyckoff does not appear to be commercially available, but is of the kind illustrated in the Appendix under III (d).

It is apparent by inspection that Wyckoff is not combinable with Schuplin to realize the invention.

Factors other than commercial success can be shown to exist to indicate non-obviousness. In re Sheckler, 438 F.2d, 299, 168 USPQ 716 (CCPA 1971).

There are such factors in the case of the invention. As can be seen by comparing an illustrative standard cable tie III (b) with a cable tie III (a) in accordance with the invention, those of the invention have greater flexibility than standard cable ties, and greater tensile strength. They are additionally lighter in weight for comparable length and strength.

Nevertheless, cable ties have been known for many years and are disclosed, for example, beginning with U.S. patent 515,747 of 1894. Since patent 515,747 issued in 1894, a number of additional patents have issued on cable ties. These include 2,979,794; 3,030,131; 3,106,028;

3,127,648; 3,140,139; 3,189,961; 3,339,246; 3,368,247; 3,486,201; 3,457,598; 3,537,146; Re 26,942; 3,542,321; 3,588,962; 3,598,442; 3,627,300; 3,654,669; 3,660,869; 3,731,347; and 3,840,256.

Yet none of the prior cable ties show a webbed strap that has been stretched to provide the flexibility, increase in tensile strength, and lightness that is characteristic of cable ties in accordance with the present invention.

In view of the desirability of having cable ties with the various advantages afforded by the invention, if the invention had, in fact, been obvious, it would have been realized long before the work of the present inventor.

In addition, it is to be noted that secondary reference primarily relied upon, Wyckoff U.S. 3,066,366, issued December 4, 1962. In the intervening period of approximately 14 years between December 4, 1962 and the filing of the present application, numerous patents have issued on cable ties of the kind shown in reference Schuplin U.S. 3,887,965 which issued September 4, 1973, e.g., U.S. 2,979,794. Yet although Wyckoff was existent during that entire interval, it did not occur to anyone to provide a stretched web cable tie in accordance with the invention.

The obvious desirability of realizing the invention, coupled with the failure of others to do so, despite the existence of reference Wyckoff as a publication since December 4, 1962, is abundant evidence that the invention was not apparent to workers

skilled in the art. Otherwise, the invention would have been realized shortly after the issue date of December 4, 1962 of Wyckoff.

In the present case, it is not possible to substitute the strap of Wyckoff for the strap of Schuplin and realize the invention. Nor is it possible to substitute the strap of Fay for the strap of Schuplin. There is simply no way to realize the present invention by merely applying knowledge clearly present in the prior art.

The Court in Sheckler noted with approval its prior decision In re Winslow, 365 F.2d 1017, 1020, 151 USPQ 48, 50-51, (1966). In this decision, the Court stated (page 51 USPQ):

> "We think the proper way to apply the 103 obviousness test to a case like this is to first picture the inventor working in his shop with the prior art

> references--which he is presumed to know--hanging on the walls around him."

In Winslow the applicant admitted that he had built basically a "Gerbe" bag holder with an air blast bag opening, to which two bags retaining pins were added. Looking around, a worker would see envelopes with holes on their flaps hung on a rod. He would then say to himself "Ha! I can punch holes in my bag and put a little rod (pin) through the holes."

Let us consider the situation in the present case if the references cited by the Examiner and relied upon by the Board were placed on walls around the inventor.

First, there would be Schuplin as exemplified by sample III (b) which is a cable tie with a solid strap that is relatively rigid and inflexible. Next there

would be Fay as exemplified by sample III (c) which is a cable tie with an attached ladder strap that completely omits webbing between adjacent rungs of the ladder and, instead, has openings between adjacent rungs of the ladder. Finally, there would be Wyckoff exemplified by III (d) which is not a cable tie at all and is not even produced by molding, but instead is no more than an extruded band with longitudinally extending ridges.

A person of ordinary skill in the art looking at these references would immediately say there is no way that he can combine the teaching of Fay with Schuplin because Fay does not have any webbing between the adjacent rungs. Instead, Fay has openings between adjacent rungs. If such a strap were substituted in Schuplin it would completely defeat Schuplin.

A person of ordinary skill would also immediately realize there is no way of deriving any benefit from Wyckoff. In the first place, the device in Wyckoff can be realized only by extrusion into a bath and not by molding, so there is no way of providing a head. Moreover, the ridges in Wyckoff extend longitudinally so they could not provide any way of interlocking with the teeth in the head of Schuplin.

Applicant respectfully submits that a worker of ordinary skill in the art with the three references before him would be at a complete loss on how to realize the invention. Even if by some stretch of the imagination he could conceivably think of stretching the strap in Schuplin, he immediately would be dissuaded from doing so. Stretching of the strap in Schuplin, even if it could be done, would result in a

mismatch between the teeth of the strap and the teeth of the head. Equally seriously, an elongation of the strap in Schuplin would result in a widening of the strap so that it would not even fit into the head. The realization of the invention requires more than the mere stretching of the strap in Schuplin. It requires design of the teeth in the head that take into account the effects of stretching. And it also requires a redesign of the head to account for stretching.

As stated in In re Benno, 765 F.2d 1341, 226 USPQ 683 (CAFC 1985) at 687 USPQ:

"This court is not disposed to ignore what it can observe with its own eyes and determine with its own hands."

Finally, as noted previously, given the obvious advantages and superiority of a cable tie in accordance with the invention,

as compared with Schuplin, if it would be obvious to modify Schuplin in the manner suggested by the Board and the Examiner, this would have been done a long time ago. The realization of this invention would not have had to wait for Applicant.

CONCLUSION

The references have been misstated and not considered as a whole. The Board attempted to set forth a proper factual basis, but failed.

The invention is a harnessing device or cable tie in which a locking head is connected to a strap with teeth that are separated with permanently stretched webbing and engage the locking head.

If pursuant to Winslow, the references are placed side-by-side on a wall before a person of ordinary skill in the art, the invention would not be realized.

The Court is invited to make this test with Samples III (b) and III (c) in the Appendix at page 16a of this Petition.

Respectfully submitted,

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APPENDIX

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

IN RE ARTHUR W. JOYCE) Appeal No. 86-1149

DECIDED: October 22, 1986

Before DAVIS, Circuit Judge, NICHOLS, Senior Circuit Judge, and BISSEL, Circuit Judge.

PER CURIAM.

DECISION

The Board of Patent Appeals and Interferences (Board) sustained a final rejection under 35 U.S.C. 103 of claims 9-15 of appellant's application, Serial No. 372,889, filed April 27, 1982. This is appellant's second appeal to this court challenging the Board's rejection of application No. 372,889 entitled "Webbed Harnessing Device." In the first appeal (No. 85-2626), decided January 27, 1986, we remanded to the Board to "show a proper factual basis for its determination as to the obviousness of the claims." The Board then complied with that direction. We now find that the Board has set forth a sufficient factual basis in affirming the examiner's rejection of appellant's claims 9-15 under 35 U.S.C. 103, and we affirm.

OPINION

Appellant continues to argue that the Board erred in rejecting the application based on 35 U.S.C. 103. However, we find sufficient factual evidence in the record now before us to support the Board's conclusion that appellant's strap harnessing device, molded from a stretch reoriented material, would have been obvious in light of the prior art. Specifically, the Board recognized that the difference between appellant's claimed subject matter and that in the Schuplin '965 patent is that the Schuplin device, unlike appellant's device, does not provide for a permanent molecular reorientation caused by stretching. But the Board also found that both the Wyckoff '366 and Fay '608 patents teach the advantages of using stretch reoriented material for a

strap device, and the Board then concluded that one of ordinary skill in the art would have provided the Schuplin strap device with a permanent stretch reorientable material. See, e.g., In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969) (test for obviousness is what the combination of references would have made obvious to one of ordinary skill in the art). There is thus adequate evidence in the record to support the Board's findings, and the conclusion is correct.

No. 86-1149

Art Unit 333 Paper No. 16

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PAT & T.M. OFFICE
BOARD OF APPEALS

Appeal No. 589-26 BA

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex Parte Arthur W. Joyce

- - -

Application for Patent filed April 29, 1982, Serial No. 372,899, a continuation of Serial No. 907,377, filed May 18, 1978; which is a division of Serial No. 734,572, filed October 21, 1976. Webbed Harnessing Device.

George E. Kersey for appellant

Primary Examiner - John J. Wilson.

Before Parker, Craig and Cohen, Examiners-in-Chief.

Craig, Examiner-in-Chief.

ON REMAND FROM THE COURT OF APPEALS

FOR THE FEDERAL CIRCUIT

This is in response to the remand by the Court of Appeals for the Federal Circuit of the instant application to this board to "show a proper factual basis for its determination as to the obviousness of the claims."

The invention relates to a harnessing device 10 molded from a stretch reorientable material comprising a head 11 with elongated guide channel 11c, locking tang 11t, and a strap 12 formed of a ladder structure including rail members 12s-1, 12s-2, rungs 12r and webs 12w, wherein the rungs 12r are separated by the web portion 12w with a permanent molecular reorientation caused by stretching to realize a relatively thin and strengthened member extending from each rung of the ladder. Material disclosed to be of the molecular reorientable type includes nylon, polypropylene, polyester and urethane. The device 10 is formed by molding stretch reorientable material in a mold, removing the device from the mold and stretching the strap 12 to produce molecular reoriented material.

The factual basis for the conclusion of obviousness under 35 U.S.C. 103 is the disclosures of the U.S. patents to Schuplin, Fay and Wyckoff.

Wyckoff et al. (Wyckoff)	3,066,366	Dec. 4, 1962
Fay	3,766,608	Oct. 23, 1973
Schuplin	3,887,965	June 10, 1975

Schuplin, as indicated by the examiner,

> shows a harnessing device molded from a stretch-reorientable material (column 2, lines 52-56), having a head 14, elongated guide channel 30, locking tang 34, locking teeth 16 and flats 20.

The teeth 16 are regarded by the examiner to correspond to rungs. The flats 20 are regarded by the examiner to correspond to "webbed portions." Column 2, liens 52-56, contain the statement

> [t]he tie may be molded of a plastic type material, such as for instance nylon, polypropylene, polyethylene or like flexible type materials.

Fay is a patent, assigned to the same assignee of the instant application, disclosing a harnessing device. The harnessing device 10 is comprised of a head 20 and a ladder strap 30 which when made out of a plastic material such as nylon permits the strap to be stretched over the major portion of its length, increasing the tensile strength of the strap per unit of cross-section. Appellant acknowledges that Fay teaches reorienting material by stretching.

Wyckoff discloses an improved strap for strapping, banding or bundling boxes. The strap is formed of selectively molecularly oriented polymeric material caused by stretching. The disclosed exemplary material is polypropylene. Stretching of the material longitudinally provides high

tensile strength in the longitudinal direction. With straps of the configuration shown in Figure 3, stretching in the manner taught in the reference (exemplified in Fig. 6) results in biaxial orientation of the molecules in the thin portions (webs) 35 between the longitudinally extending thick members 34 to cause an increased transverse tensile strength in the straps.

We find, as the examiner did, that in Schuplin the teeth 16 are rungs and the flats 20 are webbed portions. In addition, we find the strap 12 of Schuplin to be formed by a ladder structure 18,20. Moreover, the materials of Schuplin are of the type that may be stretch-reorientable as is evidence by Fay and Wyckoff. The difference between the claimed subject matter and that which is disclosed in Schuplin is the Schuplin strap is not

provided with "a permanent molecular reorientation caused by stretching." This difference does not establish the nonobviousness of the claimed subject matter as a whole, for as asserted by the examiner

> It would be obvious that the stretch reorientable material of Schuplin could be reoriented as taught by Fay. It would be further obvious to modify Schuplin to include webbed portions (see thin portions 35) between rungs (see thick portions 34) with a permanent molecular reorientation caused by stretching as shown and suggested by Wyckoff.*

Clearly, in light of the disclosures of the secondary references, it would have been obvious at the time of the invention to one of ordinary skll in the art to provide the

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*This second sentence is restated at page 4 of the examiner's final rejection "... one of ordinary skill in the art would also find it obvious that web portions can also be stretched as suggested by the binding strap of Wyckoff.

device of Schuplin with stretch reorientable material that is stretch reoriented in the strap area for the purpose of providing a low weight to strength ratio (Wyckoff, column 1, lines 44-50) and a high tensile strength (Fay, column 2, lines 51-55 and Wyckoff, column 3, lines 25-30 and column 4, lines 53-57). The above is the factual basis for our conclusion of obviousness and the final statement of our original opinion.

The only arguments made by appellant are contained in the six lines at the bottom of page 2 of the brief.

> Applicant acknowledges that Fay (B) teaches the reorientation of material by stretching, but the only stretching is of side rails and not of webbed portions between the rungs. To suggest that it would be obvious to modify Schuplin (A) by including stretched webbed portions in view of Wyckoff (C) is a matter of hindsight.

The first sentence pertaining to Fay only stretching side rails and not web portions is unpersuasive because the rejection is not based on Fay anticipating the claimed subject matter or even modifying Fay to include web portions. The pertinence of Fay is the teaching of stretching a nylon strap, albeit in one without webs, which results in the reorientation of the material, to increase the tensile strength of the strap per unit of cross-section. The second sentence is an assertion that to modify Schuplin in view of the teaching of Wyckoff is a matter of hindsight. We disagree. Where, as here, Wyckoff, as well as Fay, teaches the advantages of using stretch reoriented material for a strap, i.e., to provide a strap with a low weight to strength ratio and high tensile strength

device, one of ordinary skill in the art using only knowledge gleaned from the reference would have been led to provide the strap of Schuplin of a material with a permanent molecular reorientation caused by stretching.

For the reasons presented in the original decision as restated in by our remarks above, the rejection of claims 9 through 15 under 35 U.S.C. 103 is sustained and the decision of the examiner is affirmed.

AFFIRMED

Lutrelle F. Parker Examiner-in-Chief	)	BOARD OF PATENT APPEALS
Jerry D. Craig Examiner-in-Chief	)	AND INTERFERENCES
Irwin E. Cohen Examiner-in-Chief	)	

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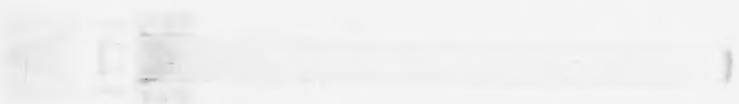
III (a) Cable Tie of the Invention of Serial No. 372,889

III (b) Schuplin-Type Tie Representative of U.S. 3,887,965



III (c) Fay-Type Tie Representative of U.S. 3,766,608

III (d) Wyckoff-Type Banding Strap Representative of U.S. 3,066,366